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| <b>UTILITY<br/>PATENT APPLICATION<br/>TRANSMITTAL</b><br><small>(Only for new nonprovisional applications under 37 CFR 1.53(b))</small> | Attorney Docket No.    | 29926/39496  |
|   | First Inventor         | Hyug-Jin Kwon  |
|   | Title                  | BATCH TYPE ATOMIC LAYER DEPOSITION<br>APPARATUS AND IN-SITU CLEANING METHOD<br>THEREOF |
|   | Express Mail Label No. | EV323774979US  |

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| <b>APPLICATION ELEMENTS</b><br><small>See MPEP chapter 600 concerning utility patent application contents.</small> | <b>ADDRESS TO:</b><br>MS Patent Application<br>Commissioner for Patents<br>P.O. Box 1450<br>Alexandria, VA 22313-1450 |
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|---|---|
| 1. <input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17)<br><small>(Submit an original, and a duplicate for fee processing)</small>  | 7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or<br>Computer Program <i>(Appendix)</i>                         |
| 2. <input type="checkbox"/> Applicant claims small entity status.<br>See 37 CFR 1.27.   | 8. Nucleotide and/or Amino Acid Sequence Submission<br><i>(if applicable, all necessary)</i>  |
| 3. <input checked="" type="checkbox"/> Specification <span style="float: right;">[Total Pages <b>27</b>]</span><br><small>(preferred arrangement set forth below)</small> <ul style="list-style-type: none"><li>- Descriptive title of the invention</li><li>- Cross Reference to Related Applications</li><li>- Statement Regarding Fed sponsored R &amp; D</li><li>- Reference to sequence listing, a table,<br/>or a computer program listing appendix</li><li>- Background of the Invention</li><li>- Brief Summary of the Invention</li><li>- Brief Description of the Drawings <i>(if filed)</i></li><li>- Detailed Description</li><li>- Claim(s)</li><li>- Abstract of the Disclosure</li></ul> | a. <input type="checkbox"/> Computer Readable Form (CRF)  |
| 4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) <span style="float: right;">[Total Sheets <b>6</b>]</span>  | b. Specification Sequence Listing on:<br>i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or ii. <input type="checkbox"/> Paper |
| 5. Oath or Declaration <span style="float: right;">[Total Sheets <b>2</b>]</span><br>a. <input checked="" type="checkbox"/> Newly executed (original or copy)<br>b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d))<br><small>(for continuation/divisional with Box 18 completed)</small><br>i. <input type="checkbox"/> <b>DELETION OF INVENTOR(S)</b><br><small>Signed statement attached deleting<br/>inventor(s) named in the prior application,<br/>see 37 CFR 1.63(d)(2) and 1.33(b).</small>   | c. <input type="checkbox"/> Statements verifying identity of above copies   |
| 6. <input checked="" type="checkbox"/> Application Data Sheet. See 37 CFR 1.76  |   |

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|---|--|
| <b>ACCOMPANYING APPLICATIONS PARTS</b>  |  |
| 9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s))  |  |
| 10. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input checked="" type="checkbox"/> Power of<br><small>(when there is an assignee) Attorney</small> |  |
| 11. <input type="checkbox"/> English Translation Document <i>(if applicable)</i>  |  |
| 12. <input checked="" type="checkbox"/> Information Disclosure <input checked="" type="checkbox"/> Copies of IDS<br>Statement (IDS)/PTO-1449 Citations    |  |
| 13. <input type="checkbox"/> Preliminary Amendment  |  |
| 14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503)<br><small>(Should be specifically itemized)</small>                            |  |
| 15. <input checked="" type="checkbox"/> Certified Copy of Priority Document(s)<br><small>(if foreign priority is claimed)</small>                         |  |
| 16. <input type="checkbox"/> Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i).<br>Applicant must attach form PTO/SB/35 or its equivalent.          |  |
| 17. <input type="checkbox"/> Other:   |  |

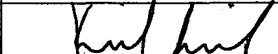
18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:


☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_ Art Unit: \_\_\_\_\_

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

|   |  |           |                |   |                |
|---|--|-----------|----------------|---|----------------|
| <b>19. CORRESPONDENCE ADDRESS</b>                                     |  |           |                |   |                |
| <input checked="" type="checkbox"/> Customer Number or Bar Code Label |  | 04743     |                | or <input checked="" type="checkbox"/> Correspondence address below |                |
| Name  | MARSHALL, GERSTEIN & BORUN<br>Michael R. Hull  |           |                |   |                |
| Address   | 233 S. Wacker Drive, Suite 6300<br>Sears Tower |           |                |   |                |
| City  | Chicago  | State     | IL             | Zip Code  | 60606-6357     |
| Country   | US   | Telephone | (312) 474-6300 | Fax   | (312) 474-0448 |

|                   |   |                                   |              |
|-------------------|---|-----------------------------------|--------------|
| Name (Print/Type) | Keith R. Jarosik  | Registration No. (Attorney/Agent) | 47,683       |
| Signature         |  | Date                              | July 8, 2003 |

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|--|---|
| I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV323774979US, in an envelope addressed to: MS Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below. |   |
| Dated: July 8, 2003  | Signature:  (Richard Zimmermann) |

21906 U.S. PTO  
10/615062  
07/08/03

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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 750.00

## Complete if Known

Application Number Not Yet Assigned  
Filing Date Concurrently Herewith  
First Named Inventor Hyug-Jin Kwon  
Examiner Name Not Yet Assigned  
Art Unit N/A  
Attorney Docket No. 29926/39496

## METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None  
☐ Deposit Account

Deposit Account Number

13-2855

Deposit Account Name

MARSHALL, GERSTEIN & BORUN

The Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

| Large Entity Fee Code | Large Entity Fee (\$) | Small Entity Fee Code | Small Entity Fee (\$) | Fee Description        | Fee Paid   |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------|
| 1001                  | 750                   | 2001                  | 375                   | Utility filing fee     | 750.00     |
| 1002                  | 330                   | 2002                  | 165                   | Design filing fee      |            |
| 1003                  | 520                   | 2003                  | 260                   | Plant filing fee       |            |
| 1004                  | 750                   | 2004                  | 375                   | Reissue filing fee     |            |
| 1005                  | 160                   | 2005                  | 80                    | Provisional filing fee |            |
| SUBTOTAL (1)          |                       |                       |                       |                        | (\$ 750.00 |

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

| Total Claims       | Extra Claims | Fee from below | Fee Paid |
|--------------------|--------------|----------------|----------|
| 13                 | -20** =      |                |          |
| Independent Claims | 3            | -3** =         |          |
| Multiple Dependent |              |                |          |

| Large Entity Fee Code | Large Entity Fee (\$) | Small Entity Fee Code | Small Entity Fee (\$) | Fee Description  |
|-----------------------|-----------------------|-----------------------|-----------------------|--|
| 1202                  | 18                    | 2202                  | 9                     | Claims in excess of 20                                     |
| 1201                  | 84                    | 2201                  | 42                    | Independent claims in excess of 3                          |
| 1203                  | 280                   | 2203                  | 140                   | Multiple dependent claim, if not paid                      |
| 1204                  | 84                    | 2204                  | 42                    | ** Reissue independent claims over original patent         |
| 1205                  | 18                    | 2205                  | 9                     | ** Reissue claims in excess of 20 and over original patent |

SUBTOTAL (2) (\$ 0.00

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

| Large Entity Fee Code | Large Entity Fee (\$) | Small Entity Fee Code | Small Entity Fee (\$) | Fee Description  | Fee Paid |
|-----------------------|-----------------------|-----------------------|-----------------------|--|----------|
| 1051                  | 130                   | 2051                  | 65                    | Surcharge - late filing fee or oath  |          |
| 1052                  | 50                    | 2052                  | 25                    | Surcharge - late provisional filing fee or cover sheet                     |          |
| 1053                  | 130                   | 1053                  | 130                   | Non-English specification  |          |
| 1812                  | 2,520                 | 1812                  | 2,520                 | For filing a request for ex parte reexamination                            |          |
| 1804                  | 920*                  | 1804                  | 920*                  | Requesting publication of SIR prior to Examiner action                     |          |
| 1805                  | 1,840*                | 1805                  | 1,840*                | Requesting publication of SIR after Examiner action                        |          |
| 1251                  | 110                   | 2251                  | 55                    | Extension for reply within first month                                     |          |
| 1252                  | 410                   | 2252                  | 205                   | Extension for reply within second month                                    |          |
| 1253                  | 930                   | 2253                  | 465                   | Extension for reply within third month                                     |          |
| 1254                  | 1,450                 | 2254                  | 725                   | Extension for reply within fourth month                                    |          |
| 1255                  | 1,970                 | 2255                  | 985                   | Extension for reply within fifth month                                     |          |
| 1401                  | 320                   | 2401                  | 160                   | Notice of Appeal   |          |
| 1402                  | 320                   | 2402                  | 160                   | Filing a brief in support of an appeal                                     |          |
| 1403                  | 280                   | 2403                  | 140                   | Request for oral hearing   |          |
| 1451                  | 1,510                 | 1451                  | 1,510                 | Petition to institute a public use proceeding                              |          |
| 1452                  | 110                   | 2452                  | 55                    | Petition to revive - unavoidable   |          |
| 1453                  | 1,300                 | 2453                  | 650                   | Petition to revive - unintentional   |          |
| 1501                  | 1,300                 | 2501                  | 650                   | Utility issue fee (or reissue)   |          |
| 1502                  | 470                   | 2502                  | 235                   | Design issue fee   |          |
| 1503                  | 630                   | 2503                  | 315                   | Plant issue fee  |          |
| 1460                  | 130                   | 1460                  | 130                   | Petitions to the Commissioner  |          |
| 1807                  | 50                    | 1807                  | 50                    | Processing fee under 37 CFR 1.17(q)  |          |
| 1806                  | 180                   | 1806                  | 180                   | Submission of Information Disclosure Stmt                                  |          |
| 8021                  | 40                    | 8021                  | 40                    | Recording each patent assignment per property (times number of properties) |          |
| 1809                  | 750                   | 2809                  | 375                   | Filing a submission after final rejection (37 CFR 1.129(a))                |          |
| 1810                  | 750                   | 2810                  | 375                   | For each additional invention to be examined (37CFR 1.129(b))              |          |
| 1801                  | 750                   | 2801                  | 375                   | Request for Continued Examination (RCE)                                    |          |
| 1802                  | 900                   | 1802                  | 900                   | Request for expedited examination of a design application                  |          |

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$

## SUBMITTED BY

Name (Print/Type) Keith R. Jarosik

Signature

Registration No. (Attorney/Agent)

47,683

## Complete (if applicable)

Telephone (312) 423-3454

Date

July 8, 2003

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Dated: July 8, 2003

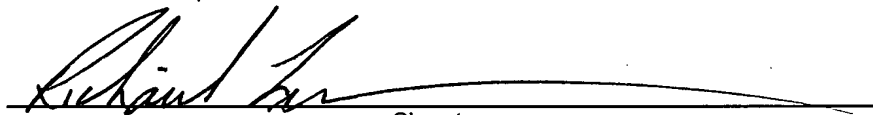
Signature:  (Richard Zimmermann)

## Certificate of Express Mailing Under 37 CFR 1.10

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on July 8, 2003  
Date

  
Signature

Richard Zimmermann  
Typed or printed name of person signing Certificate

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Application Data Sheet